

MULTIMEDIA



UNIVERSITY

STUDENT ID NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2018/2019

LRS0015 – READING SKILLS AND STRATEGIES (All Sections)

15 October 2018
9 a.m. – 11 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This question paper consists of **FIVE** pages with **THREE** sections only.
2. Answer **ALL** questions.
3. Write all your answers for **SECTIONS A, B and C** in the Answer Booklet.

SECTION A: READING COMPREHENSION [15 MARKS]

Instructions: Read the passage below and answer the questions that follow in **COMPLETE** sentences.

What will humans look like in a million years?

- 1 We need to look at our past in order to understand our future evolution. 1
Will our descendants be cyborgs with hi-tech machine implants, regrowable limbs and cameras for eyes like something out of a science fiction novel? Would humans morph into a hybrid species of biological and artificial beings? Or could we become smaller or taller, thinner or fatter, or even with different facial features and skin colour? The answer would require us to revert a million years ago to understand what humans looked like then. For a start, *Homo sapiens* did not exist. A million years ago, there were probably a few different species of humans around, including *Homo heidelbergensis*, which shared similarities with both *Homo erectus* and modern humans, but more primitive anatomy than the later Neanderthal. 5 10
- 2 Over more recent history, during the last 10,000 years, there have been significant changes for humans to adapt. Agricultural living and plentiful food have led to health problems that we have used science to solve, such as treating diabetes with insulin. In terms of looks, humans have become fatter and, in some areas, taller. Thomas Mailund, associate professor in bioinformatics at Aarhus University, Denmark suggested that perhaps we could evolve to be smaller so our bodies would need less energy, which would be handy on a highly-populated planet. 15
- 3 What will happen to our species in the future? Humans have to adapt living alongside with lots of people. Back when we were hunter gatherers, there would have been a handful of interactions on a daily basis. Mailund suggested that we may evolve in ways that help us to deal with this. Remembering people's names, for example, could become a much more important skill. Here is where the technology comes in handy. 20 25
- 4 According to Thomas Mailund "An implant in the brain would allow us to remember people's name. We know what genes are involved in building the brain that's good at remembering people's names. We might just change that. It sounds more like science fiction. But we can do that right now. We can implant it but we don't know how to wire it up to make it useful. We're getting there but it's very experimental. It's not really a biological question anymore, it's technological." 30
- 5 Currently, people have implants to fix an element of the body that is broken, such as a pacemaker or a hip implant. Perhaps in the future, implants will be used simply to improve a person. As well as brain implants, we might have more visible parts of technology as an element of our appearance, such an artificial eye with a camera that can read different frequencies of colour and visuals. We have all heard of designer babies. Scientists already have the technology to change the genes of an embryo though it is controversial and no one is sure what happens next. However, in the future, Mailund suggests, it may be seen as unethical not to change certain genes. With that may come choice about a baby's features, so perhaps humans will look like what their parents want them to look like. 35 40

Continued...

- 6 "It's still going to be selection, it's just artificial selection now. What we do with breeds of dogs, we'll do with humans," said Mailund. This is all rather hypothetical, but can demographic trends give us any sense of what we may look like in the future? 45
- 7 "Predicting out a million years is pure speculation, but predicting into the more immediate future is certainly possible using bioinformatics by combining what is known about genetic variation now with models of demographic change going forward," said Dr. Jason A. Hodgson, Lecturer, Grand Challenges in Ecosystems and the Environment 50
- 8 Now we have genetic samples of complete genomes from humans around the world. Geneticists are getting a better understanding of genetic variation and how it is structured in a human population. We cannot exactly predict how genetic variation will change, but scientists in the field of bioinformatics are looking to demographic trends to give us some idea. Hodgson predicts urban and rural area will become increasingly differentiated within people. 55
- 9 According to Hodgson, "All the migration comes from rural areas into cities so you get an increase in genetic diversity in cities and a decrease in rural areas. What you might see is differentiation along lines where people live." 60
- 10 It will vary across the world but in the United Kingdom, for example, rural areas are less diverse and have more ancestry that has been in Britain for a longer period of time compared with urban areas which have a higher population of migrants. Some groups are reproducing at higher or lower rates. Populations in Africa, for example, are rapidly expanding so those genes increase at a higher frequency on a global population level. Areas of light skin colour are reproducing at lower rates. Therefore, Hodgson predicts, skin colour from a global perspective will get darker. 65
- 11 According to Hodgson, "It's almost certainly the case that dark skin colour is increasing in frequency on a global scale relative to light skin colour. I'd expect that the average person several generations out from now will have darker skin colour than they do now." 70
- 12 Next, we will look at Space. What would we evolve to look like? With lower gravity, the muscles of our bodies could change structure. Perhaps we will have longer arms and legs. In a colder, Ice-Age type climate, could we even become even chubbier, with insulating body hair, like our Neanderthal relatives? According to Hodgson, human genetic variation is increasing. Worldwide there are roughly two new mutations for every one of the 3.5 billion base pairs in the human genome every year. It is pretty amazing and makes it unlikely we will look the same in a million years. 75 80

Adapted from Jones, L. Retrieved from <https://www.bbcearth.com/blog/?article=what-will-humans-look-like-in-a-million-year>

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- a) What is the main idea of paragraph 1? (2 marks)
- b) Briefly describe implants that could be beneficial for humans in the future. (2 marks)
- c) What are the controversies pertaining to the alteration of genes of an embryo? (3 marks)
- d) How is it possible to scientifically predict the immediate future? (2 marks)
- e) What does "it" in line 55 means? (1 mark)
- f) According to Hodgson, how do genetic diversity occur? (3 marks)
- g) Briefly describe the genetic variation and its mutation in the future. (2 marks)

SECTION B: VOCABULARY [20 MARKS]

Question 1: Prefixes and Suffixes (10 marks)

Instructions: Fill in the blanks with the appropriate prefixes and suffixes.

Looming up out of the green Cheshire countryside, listening to Deep Space, the Lovell telescope is an icon of science. And it listens, the third largest radio telescope in the world becomes (for just a few days every summer) a massive, animated art (0) installation (install). As part of the Bluedot music and science festival at Jodrell Bank, the telescope has now played host to (1) _____ (play) devised by Brian Eno and Daito Manabe. The latter developed animated data which the telescope was (2) _____ (collect) from Space, and beamed it onto the structure.

This year it will host two specially commissioned projection pieces - one inspired by the possibility of extraterrestrial life. Making artists' work come to life on a big, complicated steel structure has been the task of Pod Bluman, who is in the business of building "visual experiences".

For the last two years though, Sir Bernard Lovell's beloved 5,000 square metre bowl has been undergoing intensive restoration, which means it has to be kept static and pointed (3) _____ (direct) upward. As a result, artists and designers are deprived of its huge circular "screen". "All we had was the superstructure, so we convinced the powers-that-be that we needed a 3-D scan of the whole thing," said Mr Bluman. The need for that scan dates from when construction first began on Professor Bernard Lovell's great telescope in 1952. Even as the structure took shape, there were many (4) _____ (solve) engineering problems.

Many ad hoc solutions that allowed the 1,500 tonne bowl to be steered with pinpoint accuracy were devised along the way, including the use of racks from battleship gun turrets. (5) _____ (possible) as a result of these swift engineering fixes during construction, there were no accurate technical drawings of the telescope available. "We used a Lidar scan, which essentially shoots lasers at the entire telescope to create an enormously detailed point cloud - a three-dimensional map of the structure," Mr Bluman explained. Once he and his team had simplified this map, they used it to virtually "(6) _____ (flat) out" the whole structure into a two-dimensional plan, and used that to design the animations that would be projected onto every single strut.

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When that 2-D animated plan was “remoulded” back into a 3-D telescope - complete with its mapped-on animations - the team could convert that into a scheme of exactly where every (7) _____ (project) should be positioned to fill each strut's surface with images. According to Dr. Teresa Anderson, director of the Jodrell Bank Discovery Centre, said that ever since she and her team began running (8) _____ (culture) events on the site more than a decade ago, the idea of using the Lovell Telescope was something that had “(9) _____ (absolute) fascinated artists”. “It's so big - as tall as the clock tower of Big Ben - so Lovell Telescope is an amazing edifice as well as a scientific instrument. And once you start thinking about what the 3-D telescope is doing - listening to the Universe - it becomes even more fascinating.” So now what does she think about Sir Bernard Lovell's great scientific (10) _____ (achieve) of becoming a giant light show during a festival?

Adapted from Gill, V. Retrieved from <https://www.bbc.com/news/science-environment-44900634>

(10 marks)

Question 2: Prefixes and Suffixes (10 marks)

Instructions: Fill in the blanks with the appropriate prefixes and suffixes.

Authorities in China have ordered an investigation into a (0) vaccination (vaccine) scandal as panic grows over product safety. Last week vaccine maker Changsheng Biotechnology Co was found to have falsified production data for its rabies vaccine. The firm has been ordered to halt production and recall rabies vaccines. There has been no evidence of harm from the vaccine, but the scandal has sparked a huge outcry in China.

Changsheng, which suspended trading in its shares for part of Monday, saw their value drop by 10% on the day. The shares have slumped 47 per cent since mid-July, when news of the scandal first broke. On Sunday, Chinese Premier Li Keqiang urged severe (1) _____ (punish) for the people involved, (2) _____ (say) the incident had “crossed a moral line”.

“We will (3) _____ (resolute) crack down on illegal and criminal acts that endanger the (4) _____ (safe) of peoples' lives, resolutely punish lawbreakers according to the law, and resolutely and severely criticise (5) _____ (relic) of duty in (6) _____ (vision),” he said in a statement posted on a government website. Changsheng has apologised, saying that it was “guilty and embarrassed” and would co-operate with drug regulators to carry out a comprehensive internal investigation.

On 15 July, China's State Drug Administration (SDA) announced that Changchun Changsheng had falsified production data during the production of its freeze-dried human rabies vaccine. According to a report by Xinhua, an official said the company had “fabricated production records and product inspection records”, as well as “(7) _____ (arbitrator) changed process parameters and equipment” during production. The China Food and Drug Administration (CFDA) said the rabies vaccine had been (8) _____ (call) and that the company would be put under investigation. Days later, Jilin province authorities announced a 2017 batch of the firm's diphtheria, tetanus and pertussis (whooping cough) vaccine - or DTaP - was also (9) _____ (standard). According to state media outlet CGTN, more than 250,000 doses of DTaP in the batch had already been sold to disease control and (10) _____ (prevent) centres in eastern China. The company has now been ordered to pay a fine of 3.4 million yuan (\$510,000; £387,957).

Adapted from <https://www.bbc.com/news/world-asia-china-44920193>

(10 marks)

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SECTION C: SYONYMS AND ANTONYMS [15 MARKS]

Instructions: Fill in the blanks with the correct synonyms and antonyms.

scrumptious promising haphazardly indulge unpleasant excited
infringement dishonesty successful similarities cheerful doubt
opportunity interior supporting

1. It was an **auspicious** and _____ day for the two beaming couple.
2. You must **trust** your instinct and never _____ your own judgement.
3. We were treated to a **delicious** and _____ meal during the reception.
4. Melissa loves to **pamper** and _____ herself with a relaxing spa every weekend.
5. Despite our **differences** in opinions, we still share some _____ on work etiquettes.
6. Michelle **snide** remarks on the dress had received many _____ stares from the attendees.
7. Even though the weather was **gloomy** during the whole trip, the children still looked _____ at the end of the day.
8. The **exterior** walls of the house are made from bare bricks, but the _____ door frames and furniture are made from oak.
9. It was a **futile** effort due to lack of funding even though there were three _____ attempts in the experiments.
10. The students were **eager** to sign up for the course by 12pm as they were _____ to obtain a free concert ticket.
11. The reception was very **methodically** organized, but the catering service appointed was _____ executed as they were under staff.
12. Ahmad was given another **chance** to amend the error made in his test, and he was reminded that it will be his last _____ to do so.
13. Even though **honesty** is the best policy, many petty traders still resort to _____ when customers haggle for lower prices.
14. The group has been **advocating** for the welfare of all single mothers, and they will be _____ any agency that would assist in their plea.
15. Amir claimed that the way he had been treated was a **violation** of his right as a student representative council even though it was a minor _____ of the law in the university.

End of paper